

4/12/08

1079527 - R8 SDMS

**U.S. EPA REGION VIII
TECHNICAL ENFORCEMENT PROGRAM
RCRA CORRECTIVE ACTION ASSESSMENT REPORT**

Facility: Asarco East Helena Plant
100 Smelter Road
East Helena, MT

Facility Contact: Jon Nickel
Environmental Manager

Telephone Number: (406) 227-4529

EPA I.D. No.: MTD006230346

Notification Status: LQG

Inspection Type: Corrective Action Assessment Inspection

Date: April 30, 2008
Time In: 10:15 a.m.
Time Out: 1:50 p.m.

Weather: Clear

EPA Representative: Linda Jacobson
EPA Inspector

Inspection Participants: Jon Nickel, Environmental Manager
Robert Miller, Hydrogeologist
Bill Thompson, Hydrometrics
Mark Rhodes, Hydrometrics
Greg Lorensen, Hydrometrics
Shaun O'Connor, Cleveland Wrecking Systems
Jason Rolfe, Womack & Associates

Background:

This inspection was a prearranged corrective action assessment inspection. Ms. Jacobson, EPA inspector arrived at the facility at 9:40 a.m. to attend the construction meeting for the weekly construction of the second corrective action management unit (CAMU) waste cell. She was informed by Asarco personnel that neither of her facility contacts was at the plant. Ms. Jacobson phoned Mr. Blaine Cox, facility plant manager, and then spoke with Mr. Jon Nickel, facility environmental manager. Mr. Nickel indicated that the construction meeting is always held at the Hydrometrics office and not at the plant and was just concluding. He also granted Ms. Jacobson verbal permission to observe the monitoring well installation occurring in Lamping Field, land located at Highway 12 and Wylie Drive and owned by Asarco.

Pursuant to a 1998 federal RCRA Consent Decree ("CD"), EPA is the lead agency for implementation of corrective action activities at the ASARCO East Helena smelter facility and for measures necessary to characterize and address the groundwater plumes emanating from the plant. Asarco was installing additional monitoring wells to better assess the extent of the selenium and arsenic plumes and identify potential sources.

Ms. Jacobson drove to Lamping Fields, identified herself to Mr. Bill Thompson, Hydrometrics hydrogeologist, who was overseeing the well installation and collecting samples. Well EH-118 was being installed by Boland Environmental out of Great Falls, Montana. Wells DH-68, DH-71, EH-119, EH-121, EH-68, and EH-69 had been installed. There were access issues with installation of wells EH-67 and EH-122. Well EH-120 was still to be drilled in Lamping Field later that week.

Mr. Thompson explained that they would collect split spoon samples at 5 foot intervals beginning at 15 feet and continuing to completion. He was also collecting grab samples of the cuttings. Ms. Jacobson looked at the core collected from the 25 to 27 foot zone. There was a lot of silt, coarse sand and gravel. He indicated that he was starting to see more sand at this depth. Ms. Jacobson also observed and photographed the split spoon coring collected from the 30 to 32 foot zone. At the 35-37 foot zone, the cuttings were a little wet; Mr. Thompson explained that this is really productive sand and gravel. The core for this zone was moist, with some fines and fairly coarse. The 37 to 40 feet zone was located below the water table; the 40 to 42 foot zone was silty fine sand.

Mr. Bob Miller, Asarco hydrogeologist, joined us. He stated that the CAMU Cell 2 clay liner was down and that the company should be able to start laying liner tomorrow.

Ms. Jacobson then drove to the Asarco plant, where she was granted entry by consent, and met with Mr. Nickel and Mr. Miller. Mr. Nickel wished to discuss two items: relocation or elimination of the two offsite wells for which access issues were becoming a problem and elimination of arsenic and selenium speciation for annual residential samples. He explained that Mr. Michael Gorsich who owns the land on which wells EH-122 and DH-67 were to be placed now lives in Bellevue, Washington. Despite his best efforts, he was still unable to obtain a signed access agreement for well installation. Mr. Nickel and Mr. Miller proposed a new

location for these wells on land owned by the facility. Ms. Jacobson verbally approved the new well location and the elimination of speciation for the annual residential samples.

Ms. Jacobson clarified with them whether the Jensen family residence at 301 Gail Street had one or two usable wells. Mr. Miller explained that there were two wells but only one was used for both drinking water and irrigation. The Jensens use this well for lawn irrigation but not for gardening. Ms. Jacobson stated that during a phone conference the prior week with county and city representatives a request had been made that if there are MCL exceedances in private wells then the county should also be contacted; specifically, it was requested that Kathy Moore be contacted.

Mr. Miller, Mr. Nickel, and Ms. Jacobson then donned personal protective gear and inspected a portion of the temporary cap which had been installed over the former Speiss/Dross area. To help mitigate plume movement and reduce mass loading to the ground water, a slurry wall had been installed as an interim corrective measure at the former Speiss/Dross Plant area in fall 2007. Pending installation of a final cover or cap, a temporary HDPE cap was placed over this area. Ms. Jacobson was shown the liner repair around TW-1 (Test Well 1 used for the CDM pumping test). She also observed the liner beside the CSHB building which had to be secured by roped tires to prevent ballooning and tearing.

They then proceeded to the site of the new CAMU cell, where they were met by Mark Rhodes, Hydrometrics Project Manager, Jason Rolfe, Womack and Associates, Greg Lorensen, Hydrometrics, and Shaun O'Connor, Cleveland Wrecking System Site Manager. Mr. Rhodes explained that the last lift of clay on the cell floor was being disked. The cell side slopes were to grade. The synthetic liner work will proceed from east to west beginning at the south wall. Screening of clay was continuing from the new borrow area referred to as the south excavation area.

Ms. Jacobson and Mr. Miller asked about the liner hydraulic conductivity results. Mr. Rhodes stated that 2 samples were about 1×10^{-7} and one was in the mid 1×10^{-6} range. Mr. Rolfe stated that his results were 1.1×10^{-6} and 1.2×10^{-6} .

Northwest Lining will do both the GCL and HDPE work. They were scheduled to start the following week. The cushion layer material has been prepared and is ready at Helena Sand and Gravel.

Ms. Jacobson inquired what wastes would serve as the first lift. Mr. Nickel stated that the first lift of wastes is predominantly soils from the former Highline Trestle area. Mr. O'Connor stated that would be about 1500 cubic yards; the remainder of the first lift would be brick.

The asbestos wastes will be placed in the southwest corner after about 4 or 5 other waste lifts have been laid in the cell. IRS will bring over the asbestos siding and other asbestos materials since they are the asbestos experts.

Mr. Rolfe explained to Ms. Jacobson that the cell bottom had been staked on a 50 foot grid. They laser checked the height. They will survey tomorrow to verify that they have the correct

number of lifts and clay liner thickness. He said that they always counted the stakes to ensure that all were removed.

Womak is performing QA/QC tests at the same frequency as Hydrometrics. Nuclear density is performed every 200'/lift. Pioneer Lab is performing these tests for them. Hydrometrics is doing the sand cone and electrical density tests. Mr. Rolfe asked if EPA wished for them to perform additional destructive testing on the synthetic liner. Ms. Jacobson directed him that it was not necessary and that he should only ensure that the QC tests for the liner were performed at the frequency specified in the approved design report.

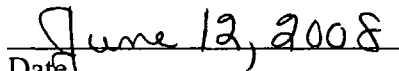
Mr. Rhodes stated that they will disk and moisture condition the last six inches and recompact the clay liner. A haul road will be built in a loop on the north side of the cell.

Ms. Jacobson noted the HDPE and GCL onsite and recorded that the GCL was Bentomat Lot 200814LO. She then left the site for the day.

Photos were taken of the well installation, the temporary cap, the screening of the soils, and the CAMU Cell 2 construction. A photo log and photographs are attached to this report as Attachment 1.

Prepared By:


Linda Jacobson, EPA Inspector


Date

Attachment 1: Photo Log and Photographs

ATTACHMENT 1

PHOTO LOG

PHOTO NUMBER	DESCRIPTION	DATE
1	Baghouse and Stack	April 30, 2008
2	Temporary Cover on Former Acid Plant Sediment Drying Area	April 30, 2008
3	Monier Flue	April 30, 2008
4	Stockpiled GCL	April 30, 2008
5	Barnum & Bailey Buildings Used for Wastes Storage	April 30, 2008
6	Baghouse Stack	April 30, 2008
7	First CAMU Cell	April 30, 2008
8	Baghouse, Stacks, Acid Storage Tanks	April 30, 2008
9	Baghouse	April 30, 2008
10	Baghouse, Note roof from which asbestos was removed	April 30, 2008
11	Upper Lake Marsh Area	April 30, 2008
12	Upper Lake	April 30, 2008
13	Upper Lake and Existing Facility Structures	April 30, 2008
14	View of Plant Looking North	April 30, 2008
15	Former Acid Plant Sediment Drying Area Temporary Cap and Slag Pile in Background	April 30, 2008
16	Drainage Ditch from Smelter Road to Plant Looking East	April 30, 2008
17	CAMU Cell 2 Construction Site	April 30, 2008
18	CAMU Cell 2 Screened Stockpiles	April 30, 2008
19	CAMU Cell 2 Soil Screen	April 30, 2008
20	CAMU Cell 2 Construction	April 30, 2008
21	Installation of Monitoring Well in Lamping Field	April 30, 2008
22	Drill Rig	April 30, 2008
23	Installation of EH-118	April 30, 2008
24	Installation of MW EH-118	April 30, 2008
25	Collection of Cuttings Sample	April 30, 2008
26	Sample Collection	April 30, 2008
27	Split Spoon Sample from 30-32'	April 30, 2008
28	Split Spoon Sample	April 30, 2008
29	Split Spoon Samples	April 30, 2008
30	Split Spoon Sample, 35-37'	April 30, 2008
31	Sample	April 30, 2008
32	Sample from EH-118	April 30, 2008
33	Sample from EH-118 Well Construction	April 30, 2008
34	Water Spray from Well Installation	April 30, 2008
35	Temporary Cap	April 30, 2008
36	Temporary Cap Secured with Sand Bags	April 30, 2008

ATTACHMENT 1

PHOTO LOG AND PHOTOS

ASARCO EAST HELENA SMELTER

APRIL 30, 2008

PHOTO NUMBER	DESCRIPTION	DATE
37	Temporary Caps across Plant Site	April 30, 2008
38	Temporary Caps	April 30, 2008
39	Temporary Cap	April 30, 2008
40	Temporary Cap by CSHB	April 30, 2008
41	Temporary Cap over Speiss/Dross Area	April 30, 2008
42	Repaired Liner around Well Casing in Former Speiss/Dross Plant Area	April 30, 2008
43	Repair to Liner around Well at Former Speiss/Dross Plant Area	April 30, 2008
44	Temporary Cap at Former Speiss/Dross Plant Area	April 30, 2008
45	Temporary Cap at Former Speiss/Dross Plant Area	April 30, 2008
46	Temporary Cap at Former Speiss/Dross Plant Area	April 30, 2008
47	Cell Construction	April 30, 2008
48	CAMU Cell 2	April 30, 2008
49	CAMU Cell 2 Construction	April 30, 2008
50	CAMU Cell 2 Construction	April 30, 2008
51	CAMU Cell Construction	April 30, 2008
52	Screening of Soil for Cell Construction	April 30, 2008
53	Screening of Soils for Inclusion in CAMU Cell 2 Construction	April 30, 2008
54	Side of CAMU Cell 2 Clay Liner	April 30, 2008
55	Screened Pile of Soil	April 30, 2008

Photo 1; Facility: Asarco East Helena Smelter; Subject: Baghouse and Stack;
Date: April 30, 2008; Photographer:
Linda Jacobson

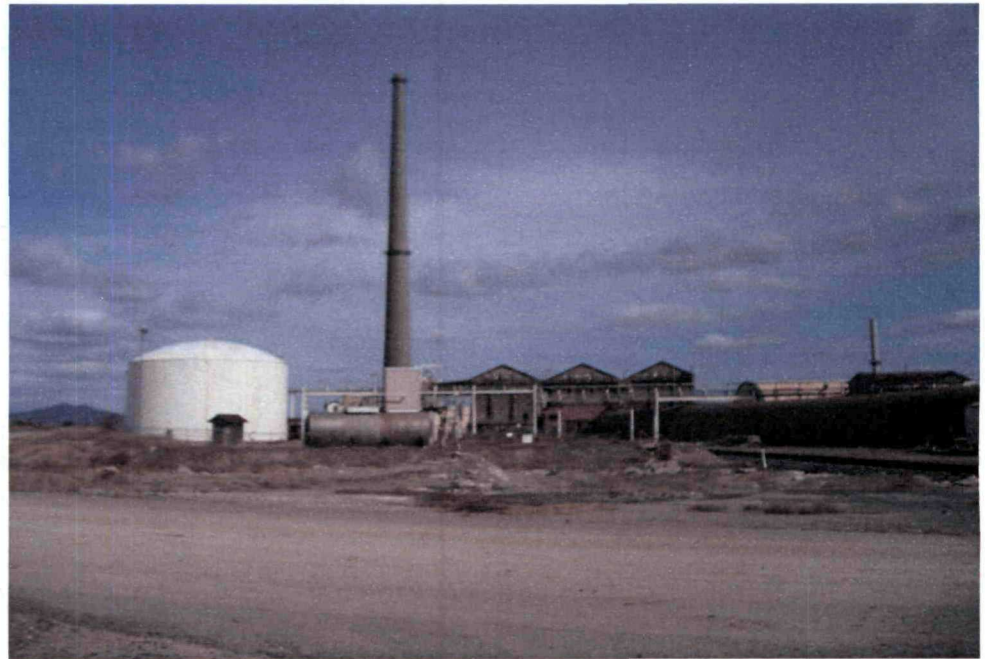


Photo 2; Facility: Asarco East Helena Smelter; Subject: Temporary Cover on Former Acid Plant Sediment Drying Area;
Date: April 30, 2008; Photographer:
Linda Jacobson

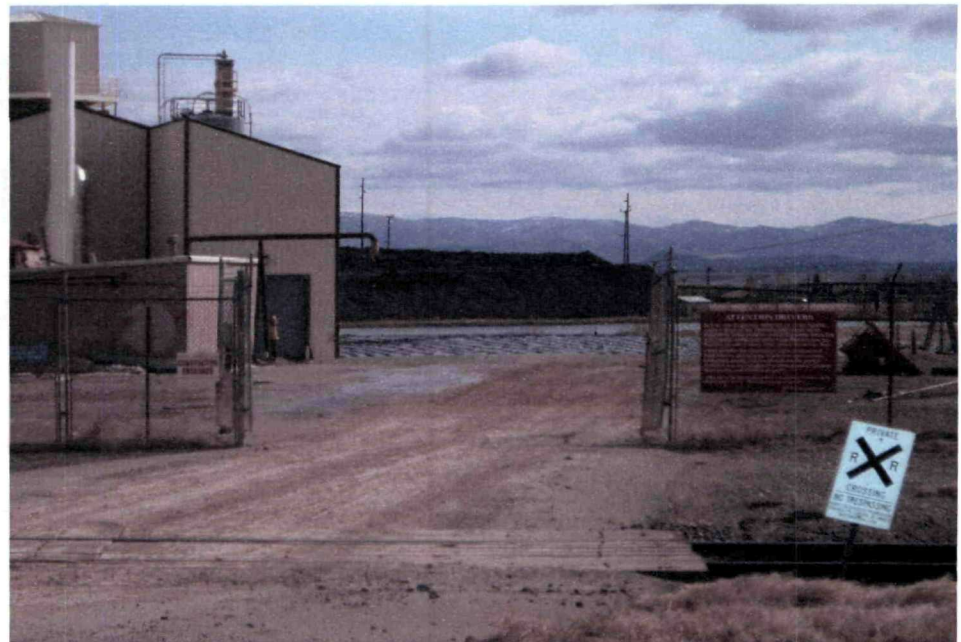


Photo 3; Facility: Asarco East Helena
Smelter; Subject: Monier Flue;
Date: April 30, 2008; Photographer:
Linda Jacobson



Photo 4: Facility: Asarco East Helena
Smelter; Subject: Stockpiled GCL;
Date: April 30, 2008; Photographer:
Linda Jacobson



Photo 5; Facility: Asarco East Helena Smelter; Subject: Barnum & Bailey Buildings Used for Waste Storage; Date: April 30, 2008; Photographer: Linda Jacobson



Photo 6; Facility: Asarco East Helena Smelter; Subject: Baghouse Stack; Date: April 30, 2008; Photographer: Linda Jacobson



Photo 7; Facility: Asarco East Helena
Smelter; Subject: First CAMU Cell;
Date: April 30, 2008; Photographer:
Linda Jacobson



Photo 8; Facility: Asarco East Helena
Smelter; Subject: Baghouse, Stacks, Acid
Storage Tanks; Date: April 30, 2008;
Photographer: Linda Jacobson

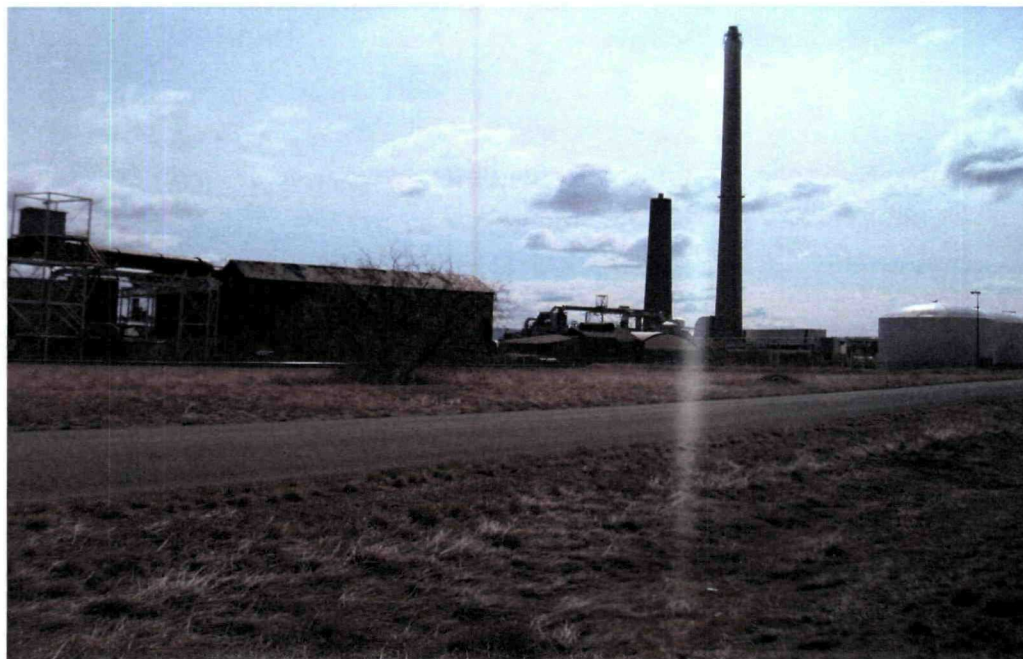


Photo 9; Facility: Asarco East Helena
Smelter; Subject: Baghouse;
Date: April 30, 2008;
Photographer: Linda Jacobson

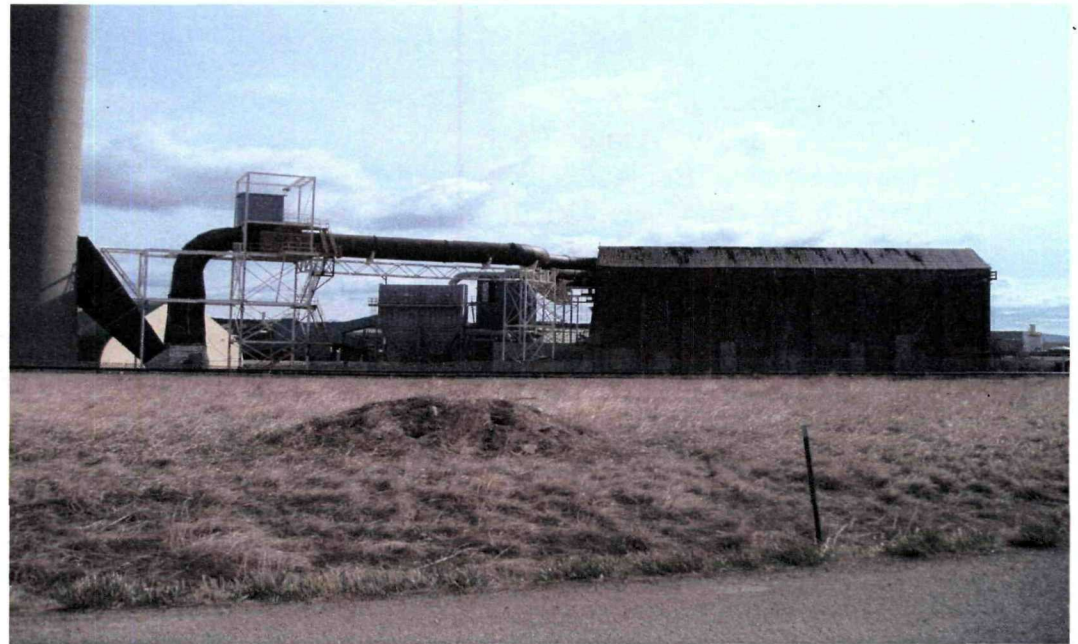


Photo 10; Facility: Asarco East Helena
Smelter; Subject: Baghouse, Note roof
from which asbestos was removed;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 11; Facility: Asarco East
Helena Smelter; Subject: Upper Lake
Marsh Area; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 12; Facility: Asarco East
Helena Smelter; Subject: Upper Lake;
Date: April 30, 2008;
Photographer: Linda Jacobson

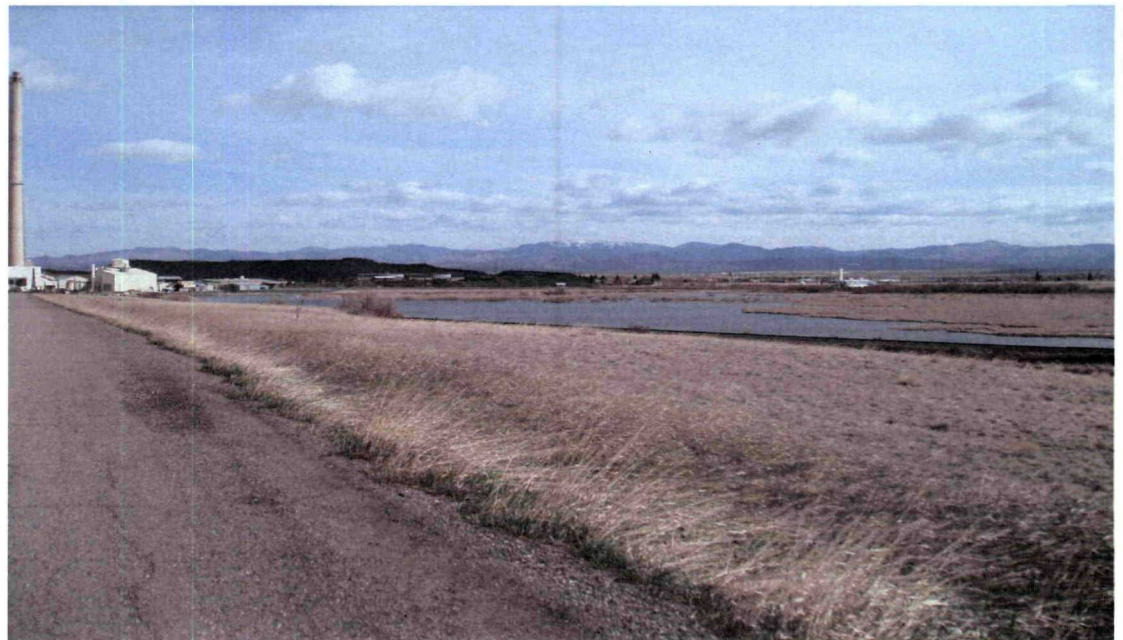


Photo: 13; Facility: Asarco East Helena Smelter; Subject: Upper Lake and Existing Facility Structures; Date: April 30, 2008; Photographer: Linda Jacobson

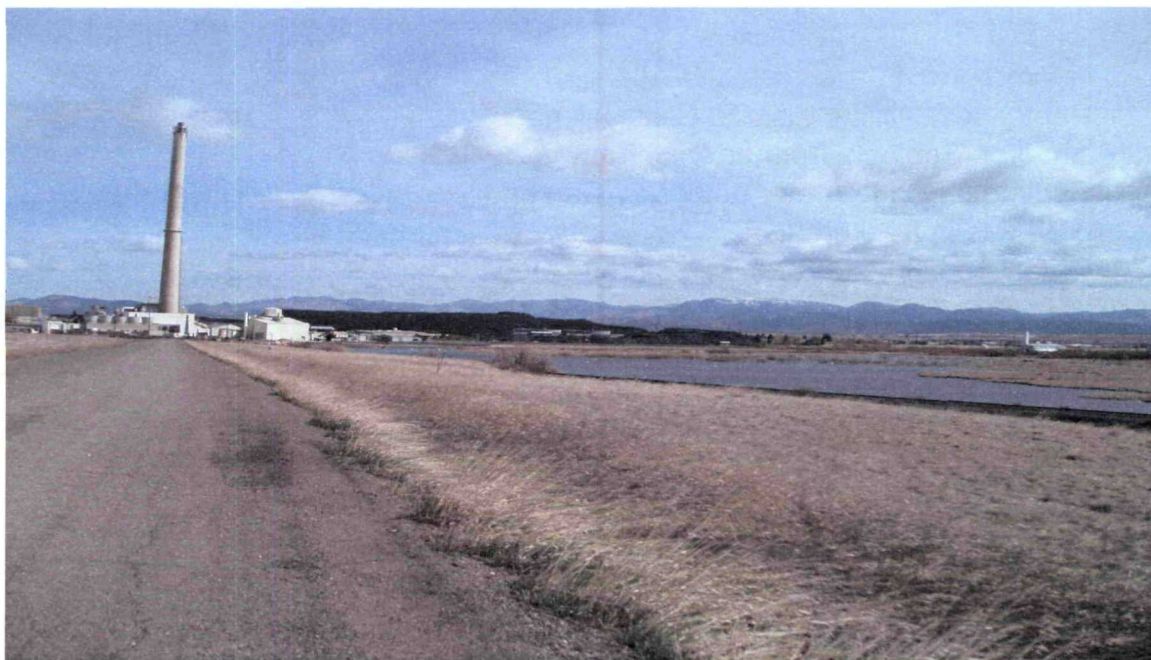


Photo: 14; Facility: Asarco East Helena Smelter; Subject: View of Plant Looking North; Date: April 30, 2008; Photographer: Linda Jacobson

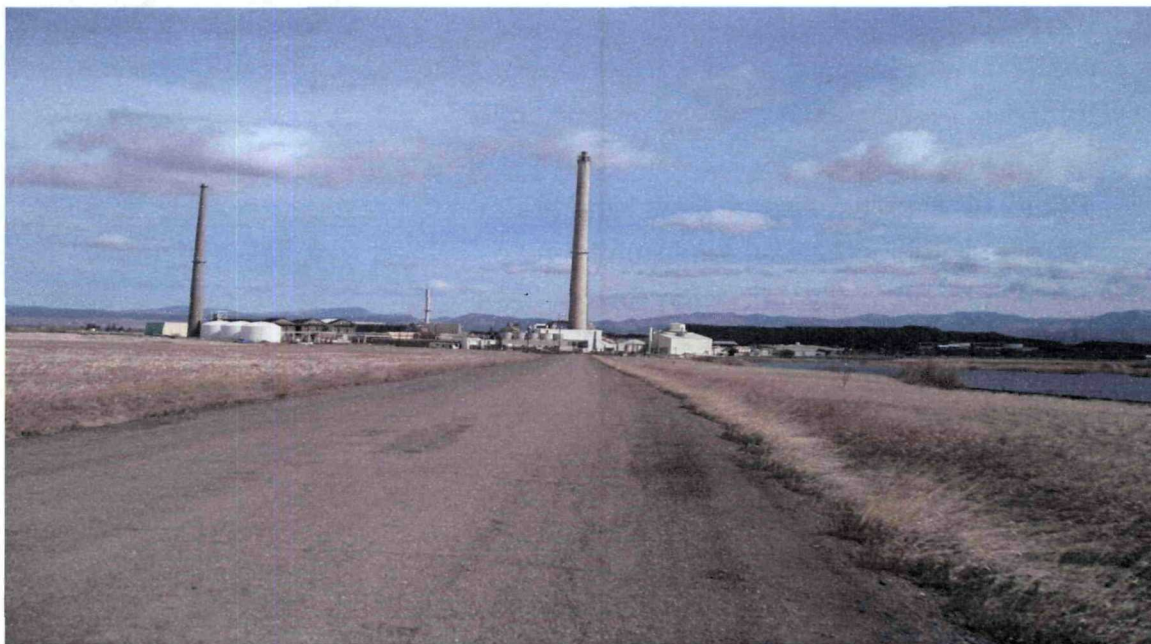


Photo: 15; Facility: Asarco East Helena
Smelter; Subject: Former Acid Plant
Sediment Drying Area Temporary Cap and
Slag Pile in Background;
Date: April 30, 2008



Photo 16; Facility: Asarco East Helena
Smelter; Subject: Drainage Ditch from
Smelter Road to Plant Looking East;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 17; Facility: Asarco East
Helena Smelter; Subject: CAMU
Cell 2 Construction Site;
Date: April 30, 2008;
Photographer: Linda Jacobson

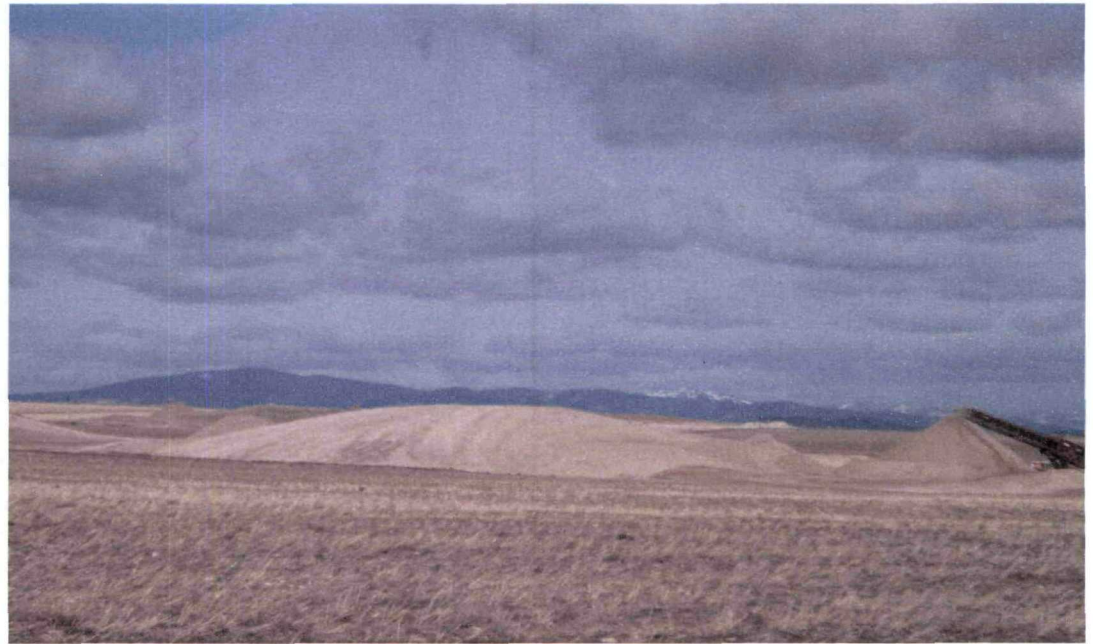


Photo 18; Facility: Asarco East
Helena Smelter; Subject: CAMU
Cell 2 Screened Stockpiles;
Date: April 30, 2008;
Photographer: Linda Jacobson

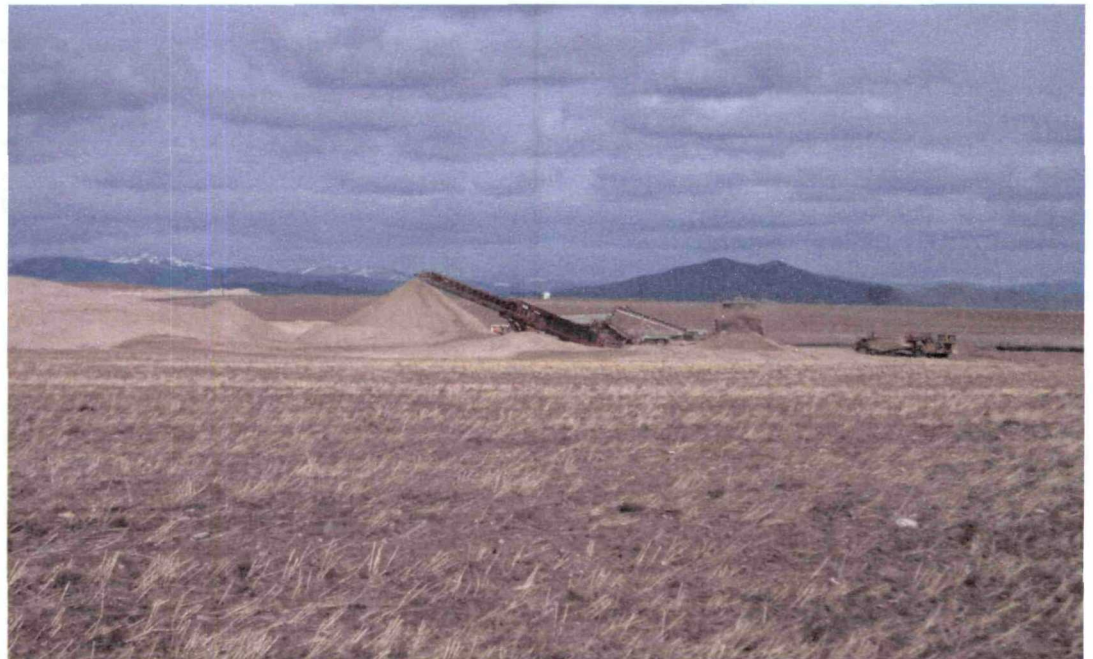


Photo 19; Facility: Asarco East
Helena Smelter;
Subject: CAMU Cell 2 Soil
Screen; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 20; Facility: Asarco
East Helena Smelter
Subject: CAMU Cell 2 Construction;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 21; Facility: Asarco East Helena Smelter; Subject: Installation of Monitoring Well in Lamping Field; Date: April 30, 2008; Photographer: Linda Jacobson

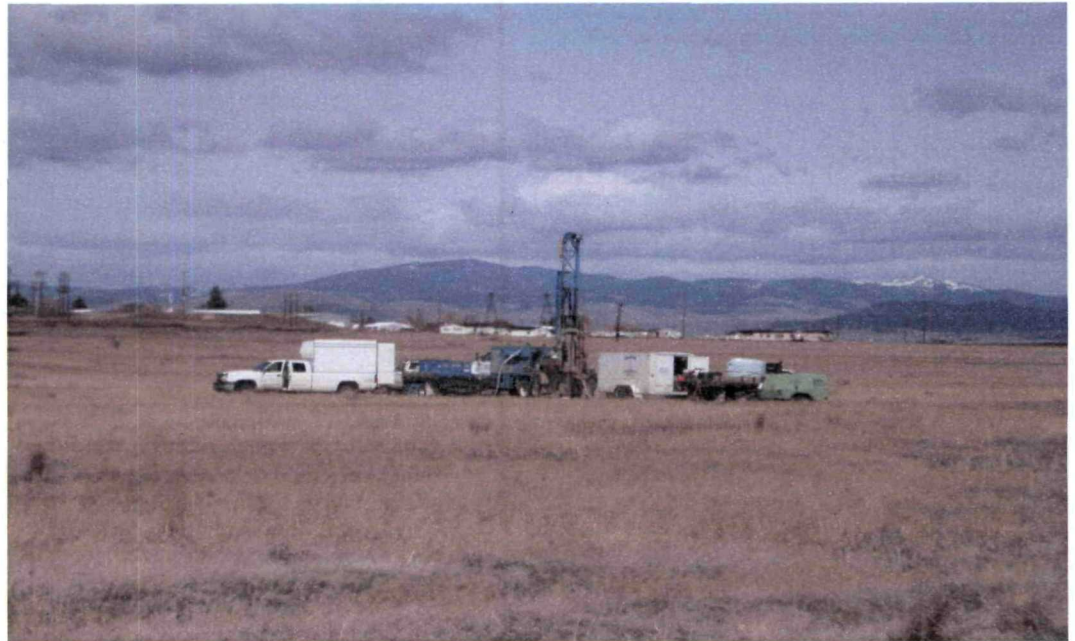


Photo 22; Facility: Asarco East Helena Smelter; Subject: Drill Rig; Date: April 30, 2008; Photographer: Linda Jacobson



Photo 23; Subject: Asarco East
Helena Smelter;
Subject: Installation of EH-118
Date: April 30, 2008
Photographer: Linda Jacobson



Photo 24; Subject: Asarco East
Helena Smelter; Subject: Well
Installation of MW-EH-118;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 25; Facility: Asarco East
Helena Smelter; Subject:
Collection of Cuttings Sample;
Date: April 30, 2008
Photographer: Linda Jacobson



Photo 26; Facility: Asarco
East Helena Smelter:
Subject: Sample Collection;
Date: April 30, 2008;
Photographer: Linda Jacobson

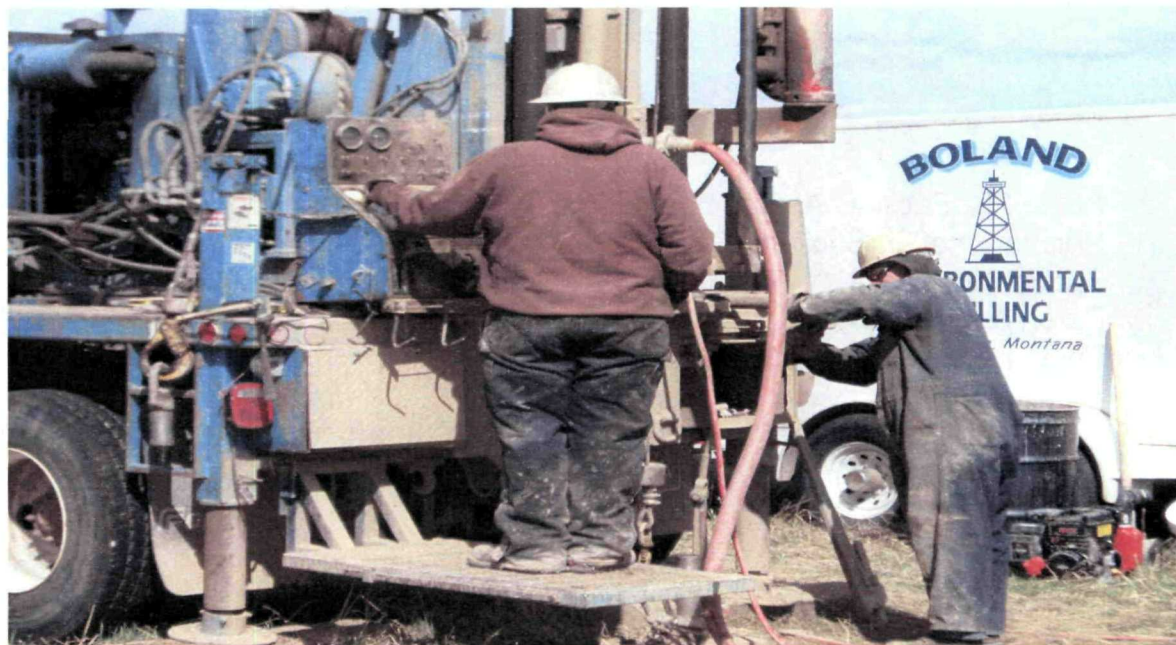


Photo 27; Facility: Asarco East
Helena Smelter; Subject: Split
Spoon Sample from 30-32';
Date: April 30, 2008
Photographer: Linda Jacobson



Photo 28; Facility: Asarco East
Helena Smelter; Subject: Split
Spoon Sample;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 29; Facility: Asarco East
Helena Smelter; Subject:
Split Spoon Sample;
Date: April 30, 2008
Photographer: Linda Jacobson



Photo 30; Facility: Asarco East
Helena Smelter; Subject: Split
Spoon Sample, 35-37'
Date: April 30, 2008;
Photographer: Linda Jacobson

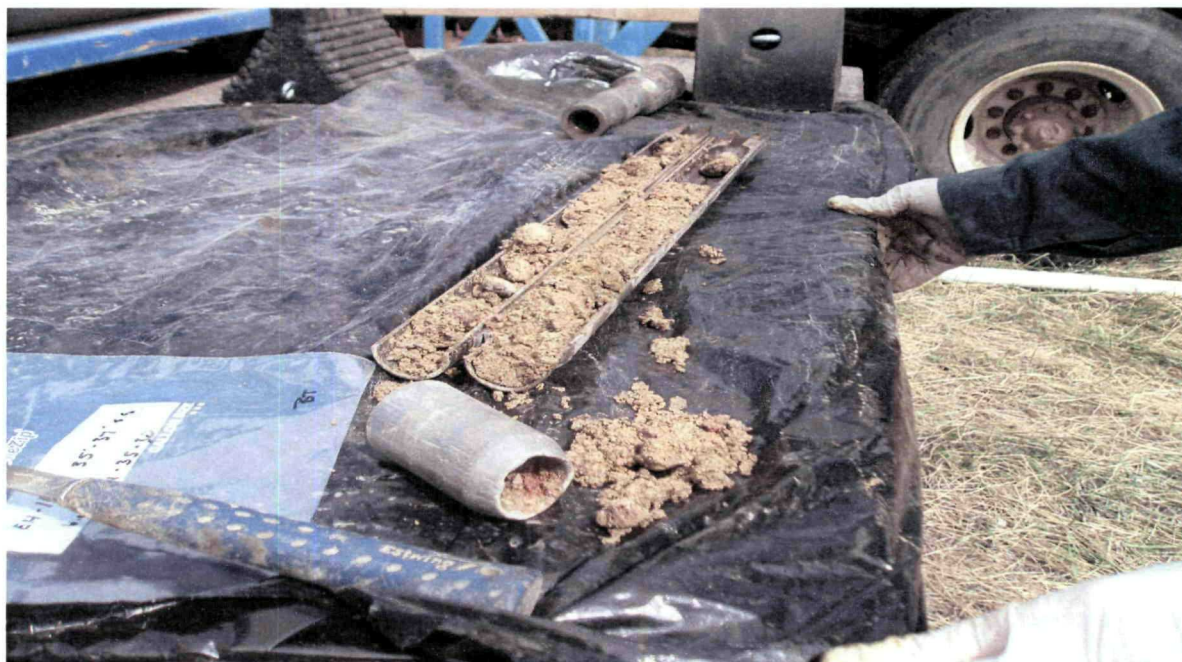


Photo 31; Facility: Asarco East
Helena Smelter; Subject: Sample
Date: April 30, 2008;
Photographer; Linda Jacobson

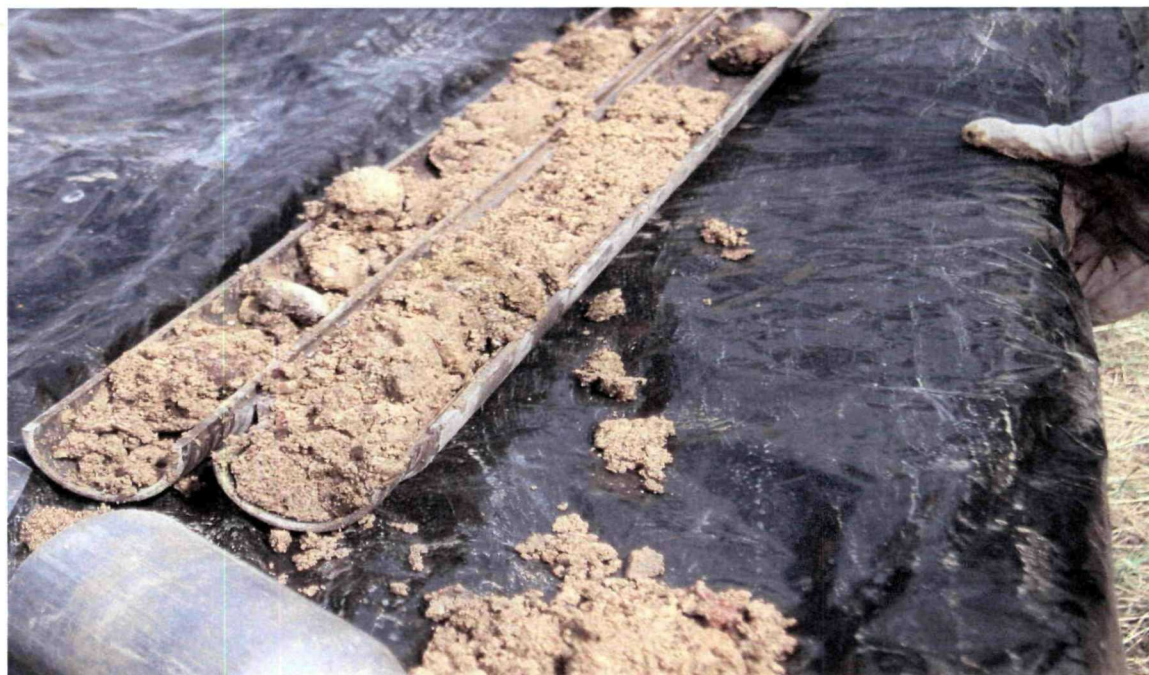


Photo 32; Facility: Asarco East
Helena Smelter; Subject: Sample
From EH-118; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 33; Facility: Asarco East
Helena Smelter; Subject: Sample
from EH-119 Well Construction;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 34; Facility: Asarco East
Helena Smelter; Subject: Water
Spray from Well Installation;
Date: April 30, 2008;
Photographer: Linda Jacobson

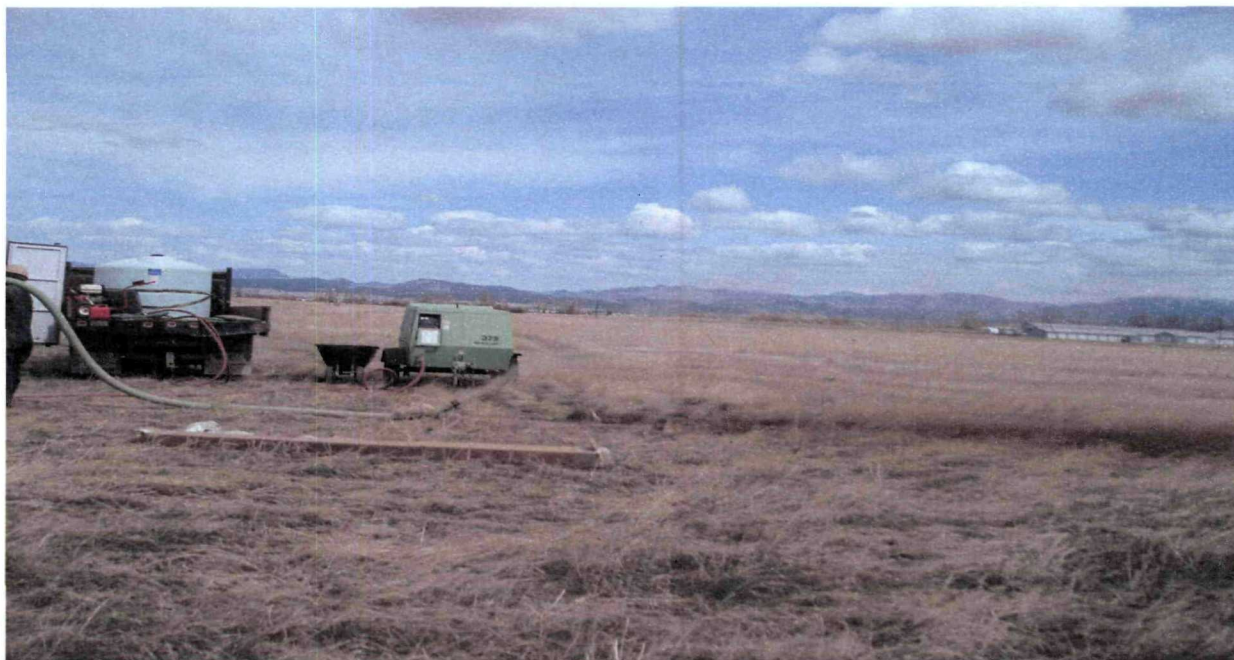


Photo 35; Facility: Asarco East
Helena Smelter;
Subject: Temporary Cap;
Date: April 30, 2008
Photographer: Linda Jacobson



Photo 36; Facility: Asarco East
Helena Smelter; Subject:
Temporary Cap Secured with
Sand Bags; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 37; Facility: Asarco
East Helena Smelter;
Subject: Temporary Caps
across Plant Site;
Date: April 30, 2008
Photographer: Linda
Jacobson



Photo 38; Facility: Asarco
East Helena Smelter;
Subject: Temporary Caps;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 39; Facility: Asarco East
Helena Smelter;
Subject: Temporary Cap;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 40; Facility: Asarco East
Helena Smelter;
Subject: Temporary Cap by CSHB
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 41; Facility: Asarco East
Helena Smelter; Subject:
Temporary Cap over
Speiss/Dross Plant Area
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 42; Facility: Asarco East
Helena Smelter; Subject: Repaired
Liner around Well Casing in Former
Speiss/Dross Plant Area
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 43; Facility: Asarco East
Helena Smelter; Subject: Repair to
Liner around Well at Former
Speiss/Dross Plant Area;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 44; Facility: Asarco East
Helena Smelter; Subject: Temporary
Cap at Former Speiss/Dross Plant
Area; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 45; Facility: Asarco East
Helena Smelter; Subject:
Temporary Cap at Former
Speiss/Dross Plant Area;
Date: April 30, 2008;
Photographer: Linda Jacobson

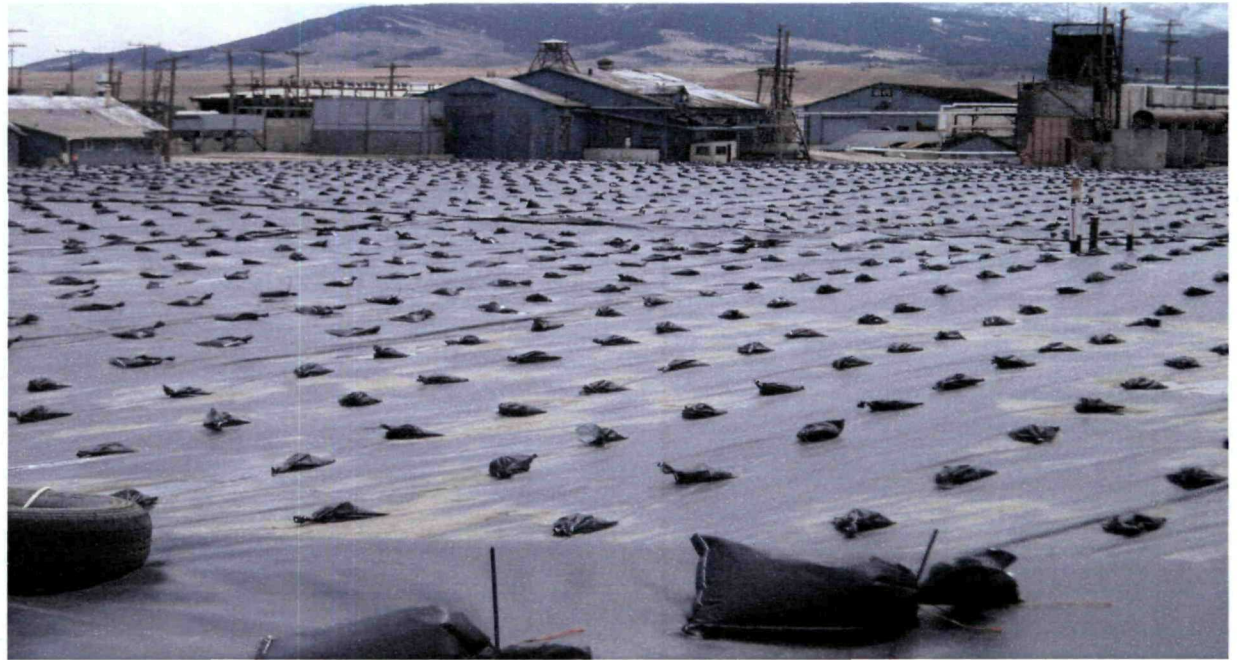


Photo 46; Facility: Asarco East
Helena Smelter; Subject;
Temporary Cap at Former
Speiss/Dross Plant Area;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 47; Facility: Asarco East
Helena Smelter; Subject: Cell
Construction; Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 48; Facility: Asarco East
Helena Smelter; Subject: CAMU Cell 2
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 49; Facility: Asarco East
Helena Smelter;
Subject: CAMU Cell 2 Construction
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 50; Facility: Asarco East
Helena Smelter;
Subject: CAMU Cell 2 Construction
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 51; Facility: Asarco East
Helena Facility;
Subject: CAMU Cell Construction;
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 52; Facility: Asarco East
Helena Smelter;
Subject: Screening of Soil for
Cell Construction;
Date: April 30, 2008;
Photographer: Linda Jacobson

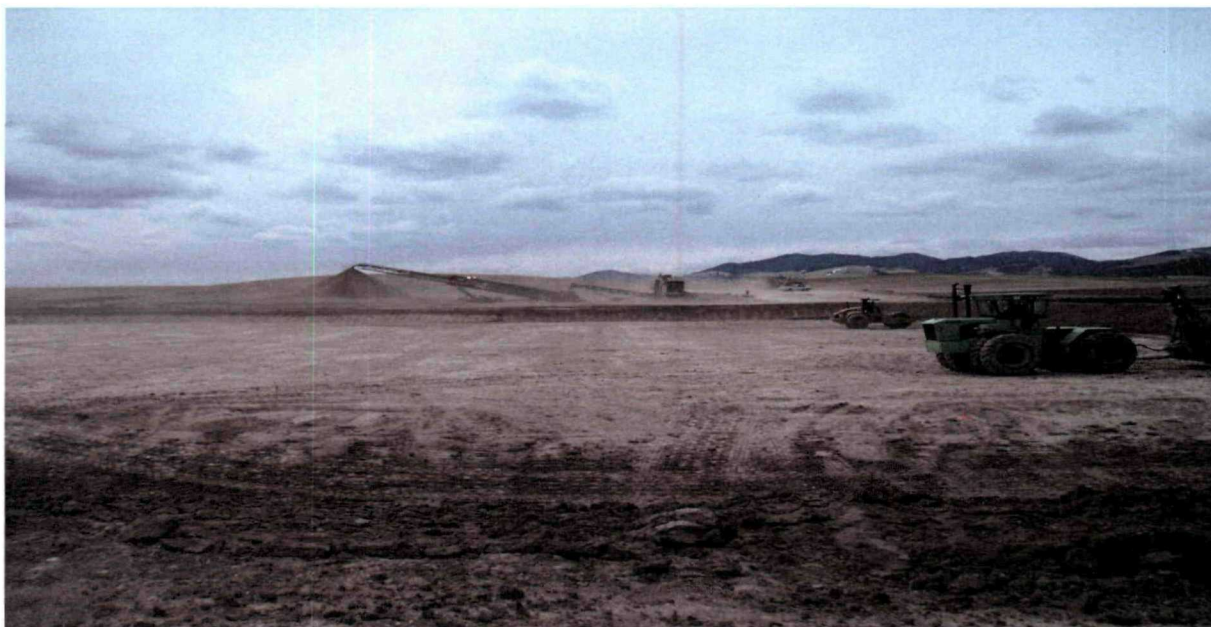


Photo 53; Facility: Asarco East
Helena Smelter; Subject:
Screening of Soils for Inclusion in
CAMU Cell 2 Construction
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 54; Facility: Asarco East
Helena Smelter; Subject: Side of
CAMU Cell 2 Clay Liner
Date: April 30, 2008;
Photographer: Linda Jacobson



Photo 55; Facility: Asarco East
Helena Smelter; Subject:
Screened Pile of Soil
Date: April 30, 2008;
Photographer: Linda Jacobson

